

# TESTICULAR TRAUMA SECONDARY TO LESS-LETHAL KINETIC ENERGY MUNITIONS

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## ABSTRACT

Many cases of testicular trauma secondary to munitions have been reported. We report a case of a 37-year-old man who suffered testicular trauma as a result of a less-lethal munition projectile. With the advent, and increased use, of less-lethal munitions by the military and law enforcement agencies, more of these new subsets of genitourinary trauma patients who will require care are sure to result. UROLOGY 67: 1290.e1–1290.e2, 2006. © 2006 Elsevier Inc.

Many cases of testicular trauma secondary to less-lethal kinetic energy munitions have been reported. There was even a death of a 21-year-old college student secondary to a round to the head in Boston in October 2004 in a maneuver for crowd control. That incident proves that the name “less-lethal” may be deceiving, and healthcare providers should be aware of the potential of these munitions. With the advent, and increased use, of less-lethal munitions by the military and law enforcement agencies, more injuries and new subsets of genitourinary trauma patients who will require care are sure to result. An understanding of the workings and the potentials of these munitions is necessary to treat patients with these types of injuries.

## CASE REPORT

A 37-year-old man who had refused to drop his knife after attempting to burglarize a gas station was shot in the abdomen with a Hornet’s Nest projectile 12-gauge round by the police. He charged the officers, and a second round was fired at his genitalia, after which he was restrained and disarmed. The patient had minimal scrotal swelling and no hematoma on presentation. He had multiple superficially penetrating wounds to the left lower abdo-

men and thigh (Fig. 1). Ultrasonography of the scrotum revealed two 4-mm rubber pellets embedded within his left testis (Fig. 2). His toxicology screen was positive for cocaine, amphetamines, and tetrahydrocannabinol. He refused the recommended exploration and was treated nonoperatively. The nongenitourinary injuries were superficial and also were not explored surgically, and he was given wide-spectrum antibiotics. He did well. Eight days after the injury, he had minimal swelling, and his scrotal contents felt normal on physical examination. He was scheduled to follow-up in 6 weeks for a repeat ultrasound scan, but he refused, despite several attempts to coordinate this. He did report by telephone that he was doing well, denying any pain or hematoma. Although this patient did not seem to have had any long-term sequelae, we would encourage exploration for penetrating trauma.

## COMMENT

Multiple types of less-lethal impact munitions are in use at present. The most common of these include the three we discuss. The first is the one that was used to restrain this patient, the Hornet’s Nest projectile 12-gauge round (Fig. 3). This round contains twenty .308 caliber rubber balls in the shell. It is designed to be a nonpenetrating round, but it may not always be, as demonstrated in our patient. It has an effective range of 3 to 10 yd, and it is delivered by a 12-gauge shotgun. Another commonly used less-lethal munition is the beanbag round. This is a synthetic bag filled with lead pellets. It is also delivered by a 12-gauge shotgun, with the velocity of 90 m/s. It has an effective range of

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FIGURE 1. Patient exhibits multiple superficially penetrating wounds to left lower abdomen and thigh from Hornet's Nest projectile.

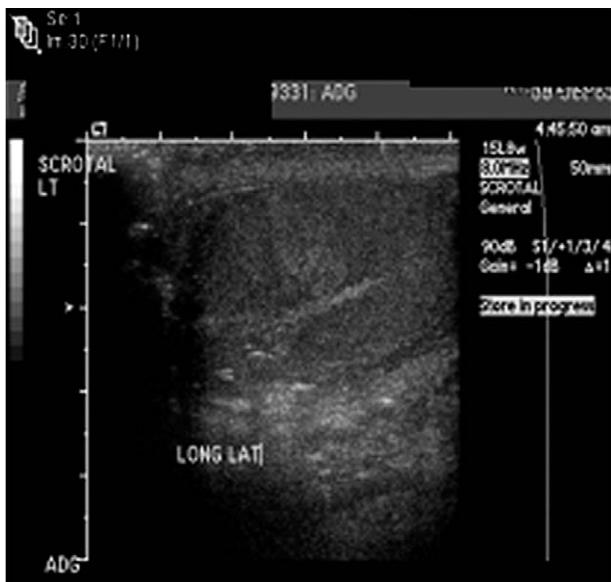


FIGURE 2. Ultrasound scan of scrotum revealing two 4-mm rubber pellets embedded within left testis.

10 to 15 yards, and the average number of rounds required to restrain the target is reported to be 2.48. A documented case of testicular rupture secondary to a bean bag round has been reported by a group at the University of Southern California.<sup>1</sup> This munition has been approved for use by the police in all 50 states. The third commonly seen type of less-lethal munition is the exact impact sponge round. This round has a plastic body with a foam sponge nose. The effective range is 5 to 120 ft,



FIGURE 3. Intact Hornet's Nest projectile 12-gauge round (background) and loose .308 caliber rubber balls (foreground).

with a velocity of 99 m/s. All three of these are direct fire rounds, making the aim much more accurate compared with conventional rubber rounds, which must be ricocheted off the ground before impact.<sup>2</sup>

With the advent, and increased use, of less-lethal munitions by the military and law enforcement agencies, more traumatic injuries of this type are sure to occur. Urologists, trauma surgeons, and emergency medicine physicians should be aware of this new subset of genitourinary trauma patients who will require care. Urologists are likely to see more of these injuries, because these munitions are intended to be directed to impact below the chest.

#### REFERENCES

1. de Brito D, Challoner KR, Sehgal A, et al: The injury pattern of a new law enforcement weapon: the police bean bag. Ann Emerg Med 38: 383-390, 2001.
2. Defense Technology Federal Laboratories 2003 specifications manual, STFL-SM 0503.